

Pollutant Exposure

Long-Term Air Particle Pollution Exposure

Receptor & Biochemical Pathway Activation (MIE)

ROS, Nocioceptor activation,
activation of inflammatory pathways

Pulmonary, ANS & Systemic Responses (IKE)

Inflammatory mediators (CRP, IL-6), Insulin resistance
Endothelial dysfunction, arterial constriction & injury
Coagulation factors & regulators (PAI-1, tPA), HRV, oxLDL

Patho- physiological Mechanism (IKE)

Ventricular
remodeling

Vascular
remodeling

Subclinical Effects (IKE)

Electrophysiological
Changes

Ventricular
hypertrophy

Vascular
dysfunction

Changes in HR
Repolarization

LV & RV
dysfunction

HBP

Athero-
sclerosis

Clinical Events (AO)

Arrhythmia

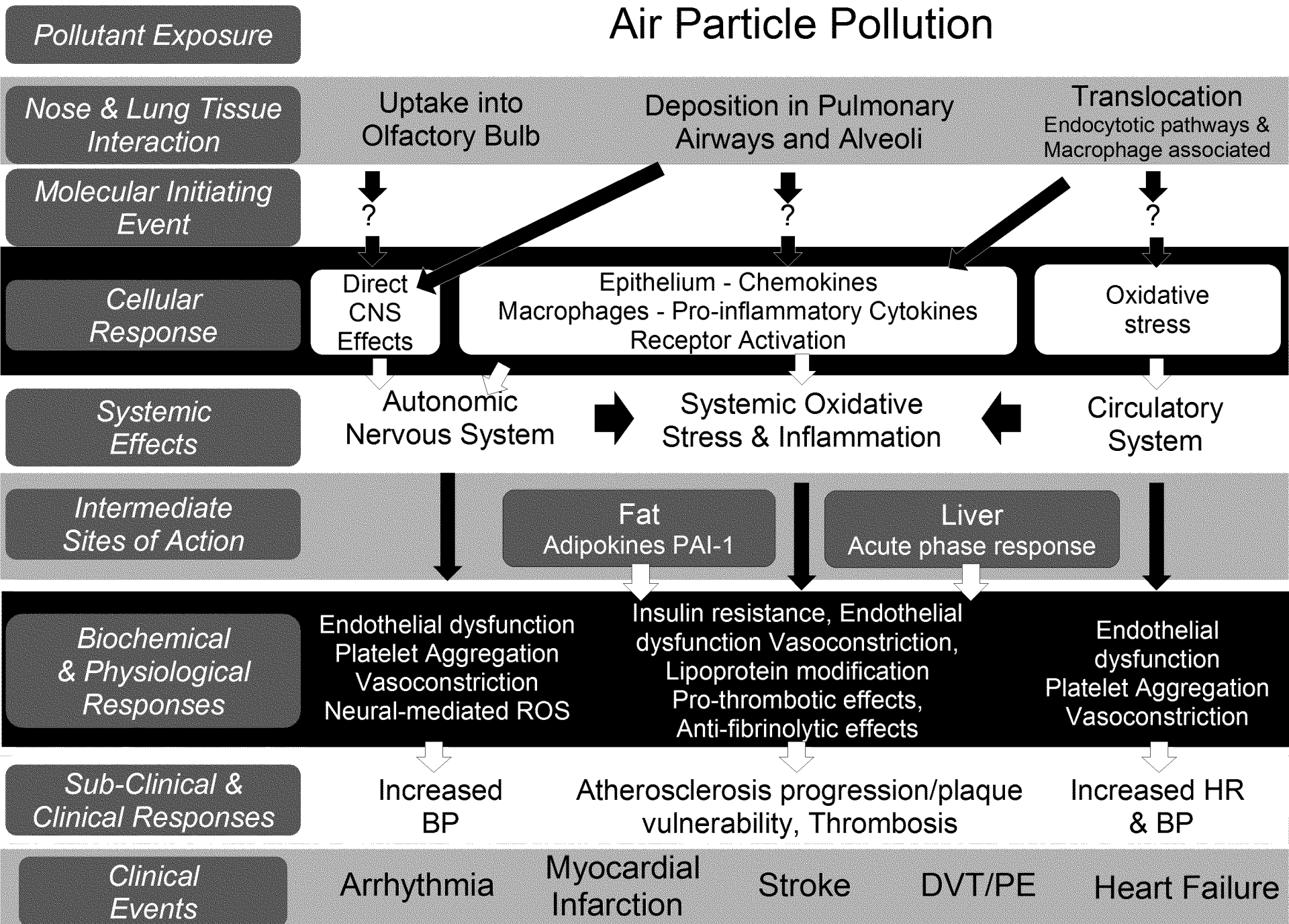
Heart Failure

Myocardial infarction
Stroke

Public Health Burden

Cardiovascular Morbidity and Mortality

Air Particle Pollution



Proposed Adverse Outcome Pathways Explaining Ambient Air Particle Pollution Exposure and Premature Death from Arrhythmia

